

STEREO CONTROL AMPLIFIER

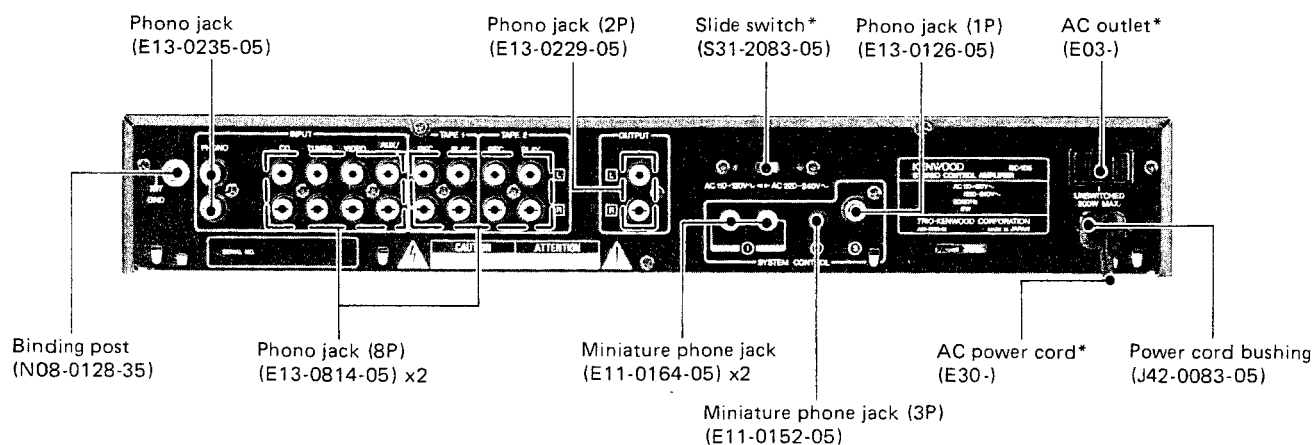
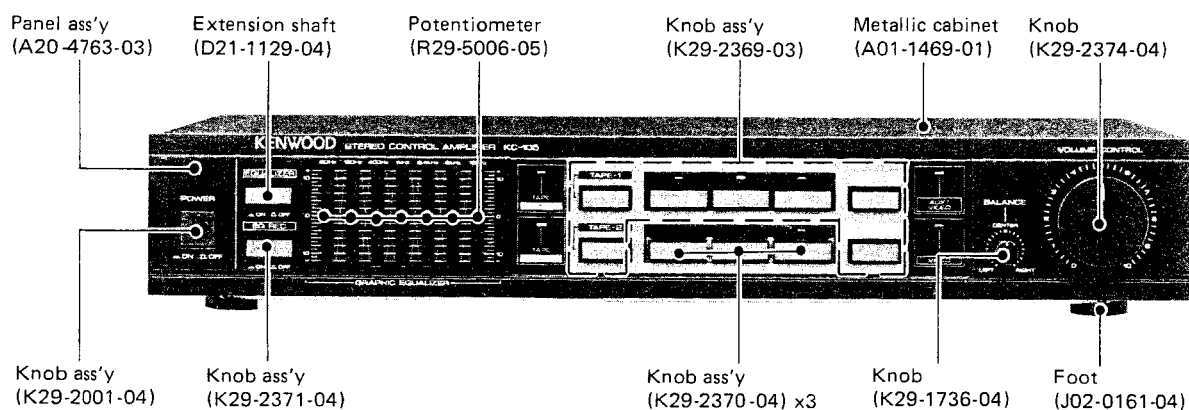
# KC-105

## SERVICE MANUAL

# KENWOOD

TRIO-KENWOOD CORPORATION

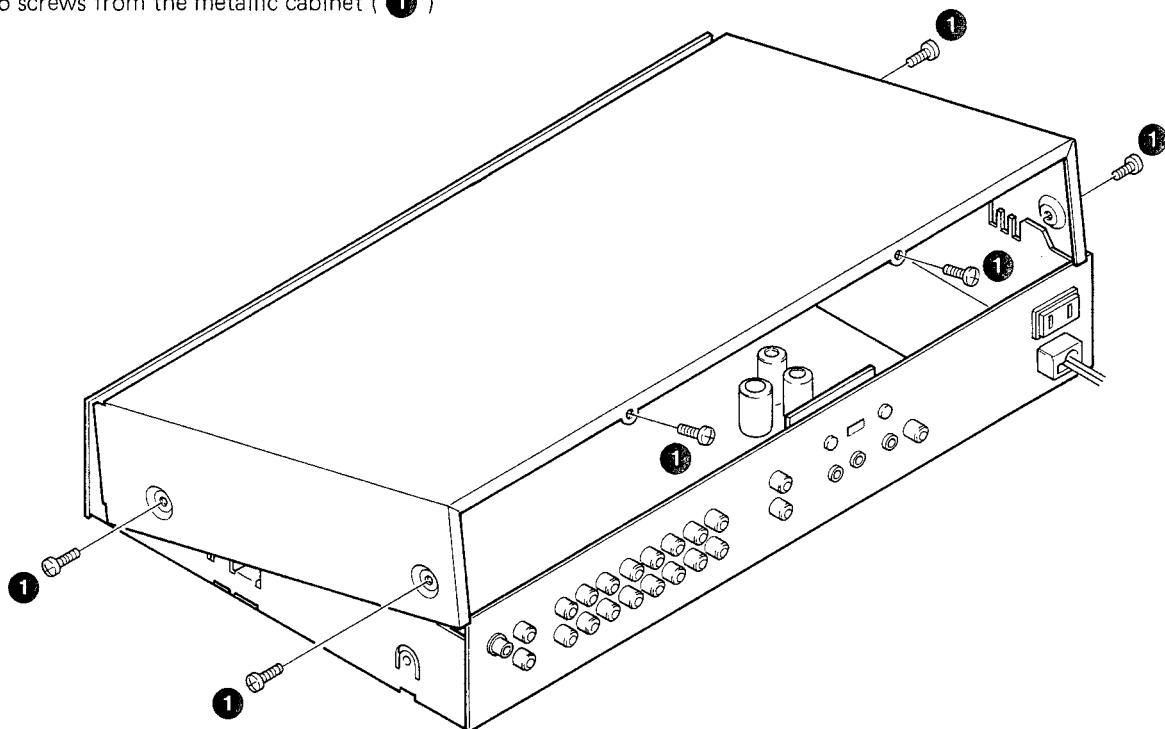
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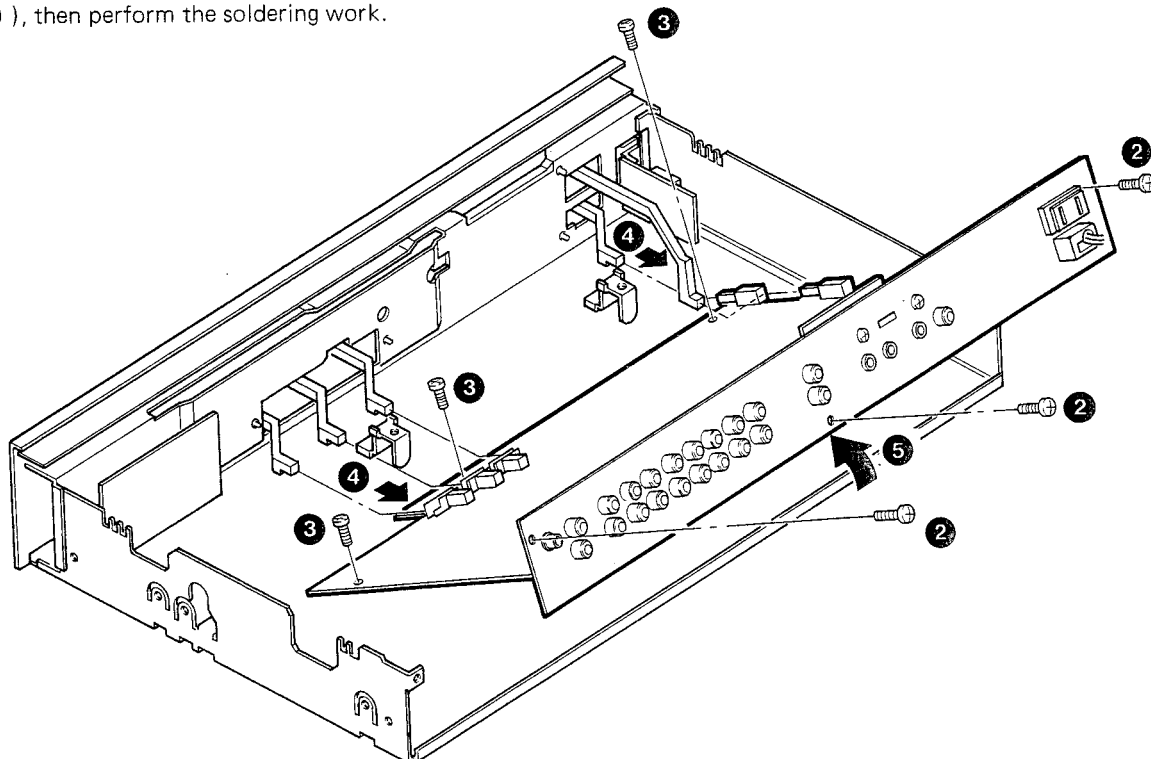
\*Refer to parts list on page 6.

## DISASSEMBLY FOR REPAIR

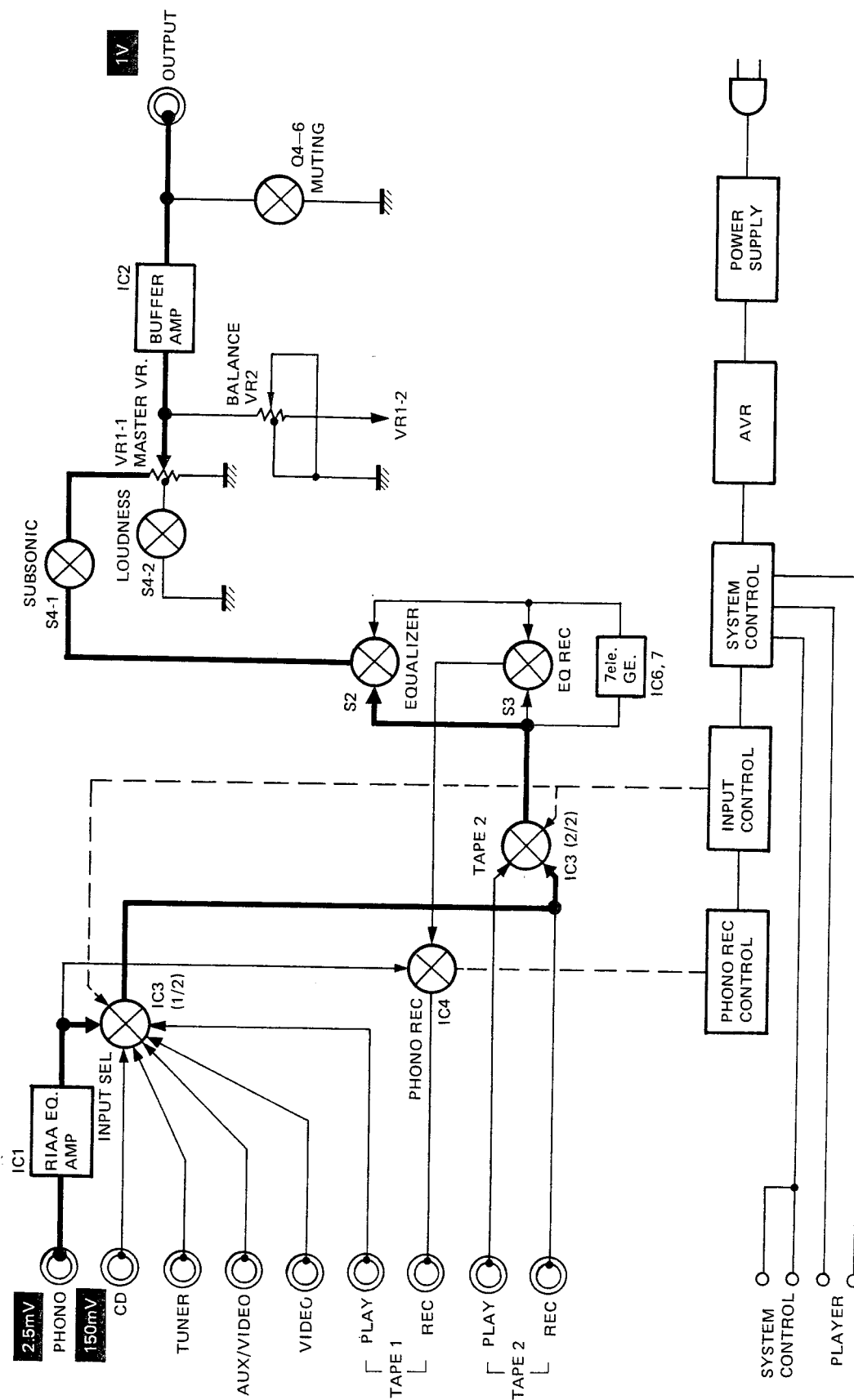
1. Remove the 6 screws from the metallic cabinet ( ❶ )



2. Remove the 3 screws from the rear panel ( ❷ ).
3. Remove the 3 screws from the AUDIO UNIT (X09-2260-10) (A/5) ( ❸ ), then remove the 5 Knob ass'y ( ❹ ).
4. Lifting the rear panel, reverse the AUDIO UNIT (X09-) (A/5) ( ❺ ), then perform the soldering work.



## BLOCK LEVEL DIAGRAM



## CIRCUIT DESCRIPTION

### Description of Components

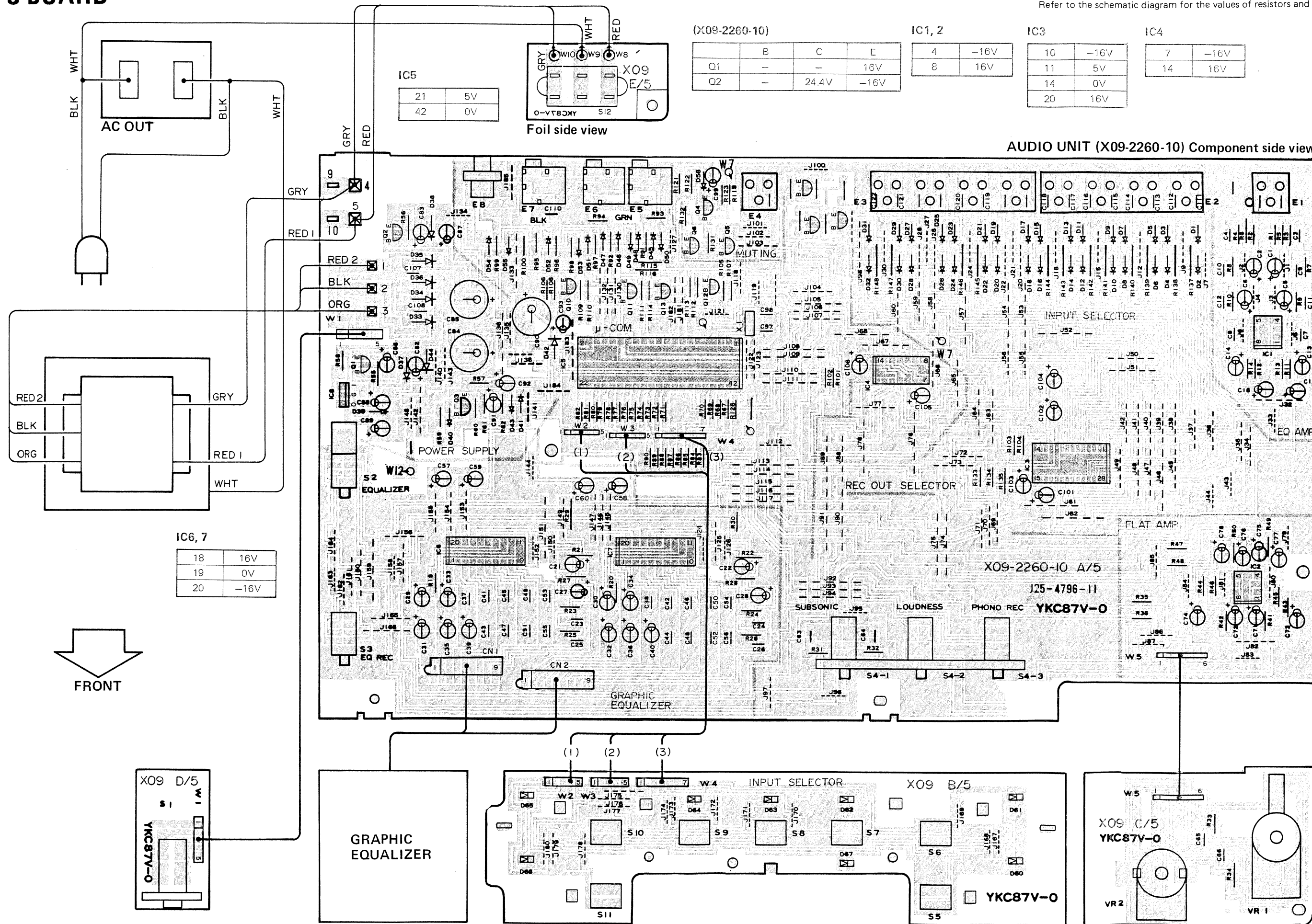
#### AUDIO UNIT (X09-2260-10)

Components	Application/Function	Operation/Condition/Compatibility
Q1	Driver	+16V power supply.
Q2	Driver	−16V power supply.
Q3	Backup	Microprocessor backup.
Q4	Muting	"L" when ON.
Q5, 6	Muting	"H" when ON.
Q10, 12	Buffer	"H" when ON.
Q11, 13	Buffer	"L" when ON.
IC1	Equalizer amplifier	
IC2	Flat amplifier	
IC3	Input selector	
IC4	REC selector	Tape 1 REC select of phono REC and source.
IC5	Microprocessor	Control of IC3, 4, S5~11 and D60~67.
IC6, 7	G. EQ.	7-element G.E.
IC8	3-terminal regulator (+5V)	Generates +5V for microprocessor.

# PC BOARD

# KC-105 KC-105

Refer to the schematic diagram for the values of resistors and capacitors.



IC5

21	5V
42	0V

Foil side view

(X09-2260-10)

	B	C	E
Q1	—	—	16V
Q2	—	24.4V	—16V

IC1, 2

4	—16V
8	16V

IC3

10	—16V
11	5V
14	0V
20	16V

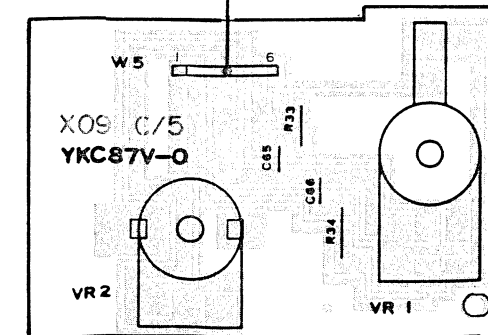
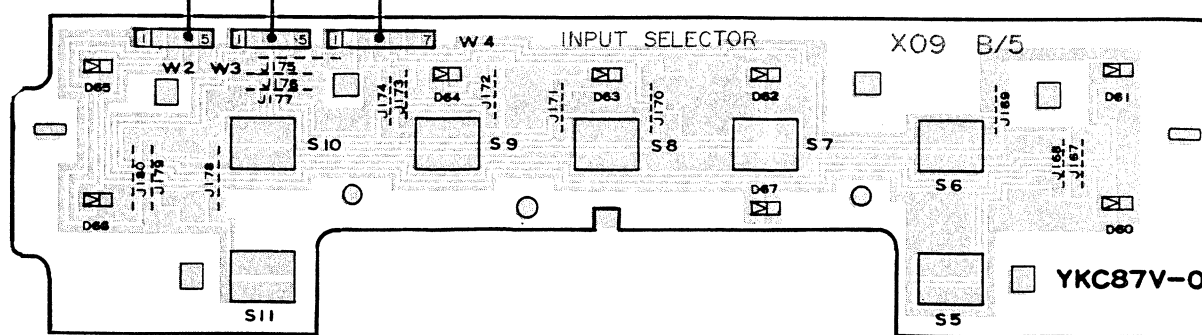
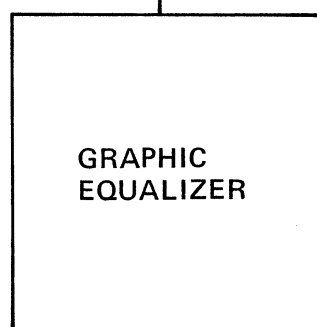
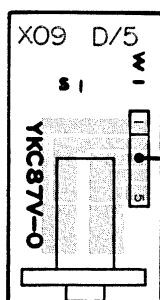
IC4

7	—16V
14	16V

IC6, 7

18	16V
19	0V
20	—16V

AUDIO UNIT (X09-2260-10) Component side view

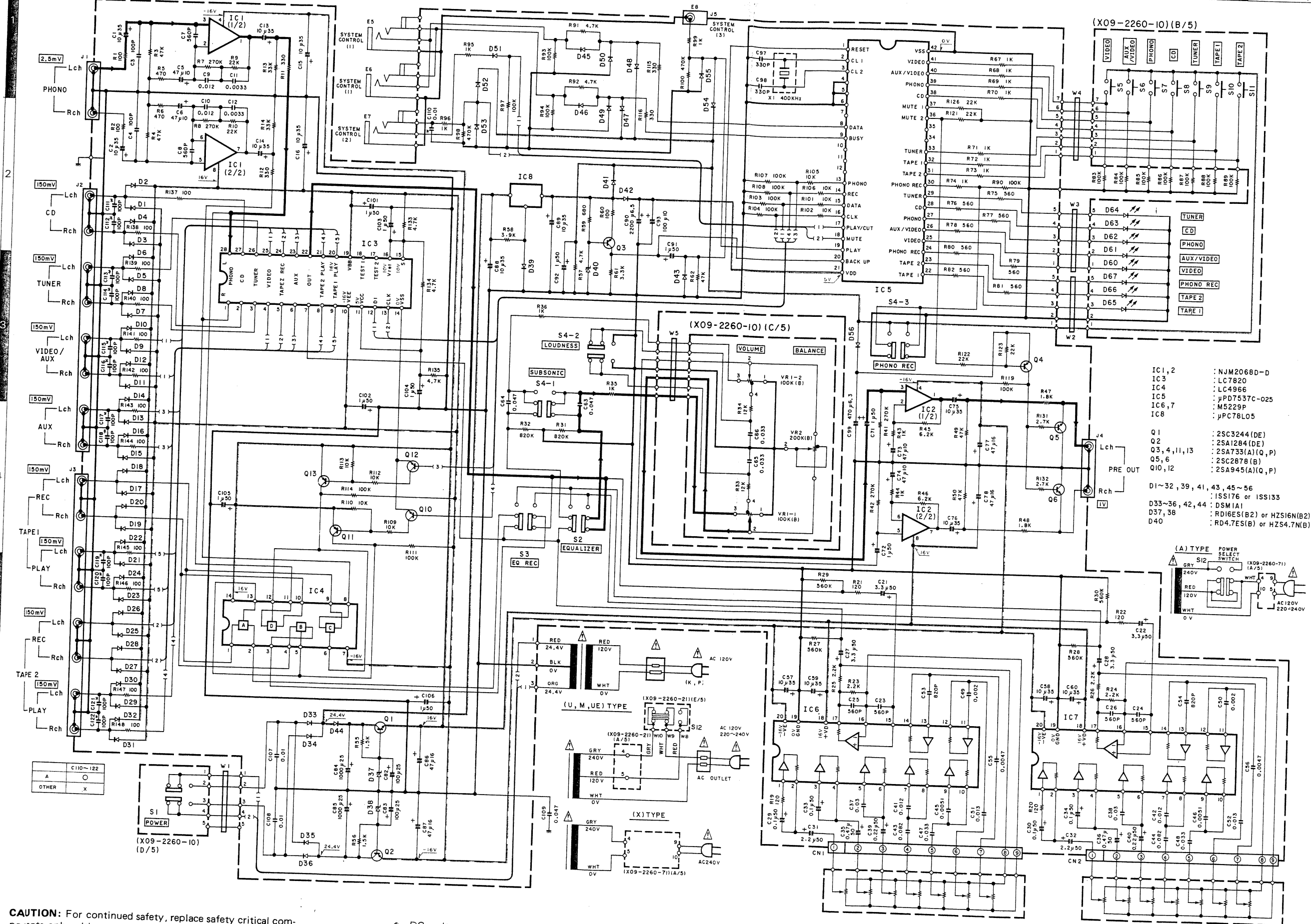


(X09-2260-10) (A/5)

(X09-2260-10) (B/5)

(X09-2260-10) (C/5)

(X09-2260-10) (D/5)



2SA1284  
2SA733(A)  
2SC2878  
2SC3244  
2SC945(A)

NJM2068D-D

M5229P

 $\mu$ PD7537C-025

LC7820

 $\mu$ PC78L05

LC4966

KC-105(K)

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

• DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

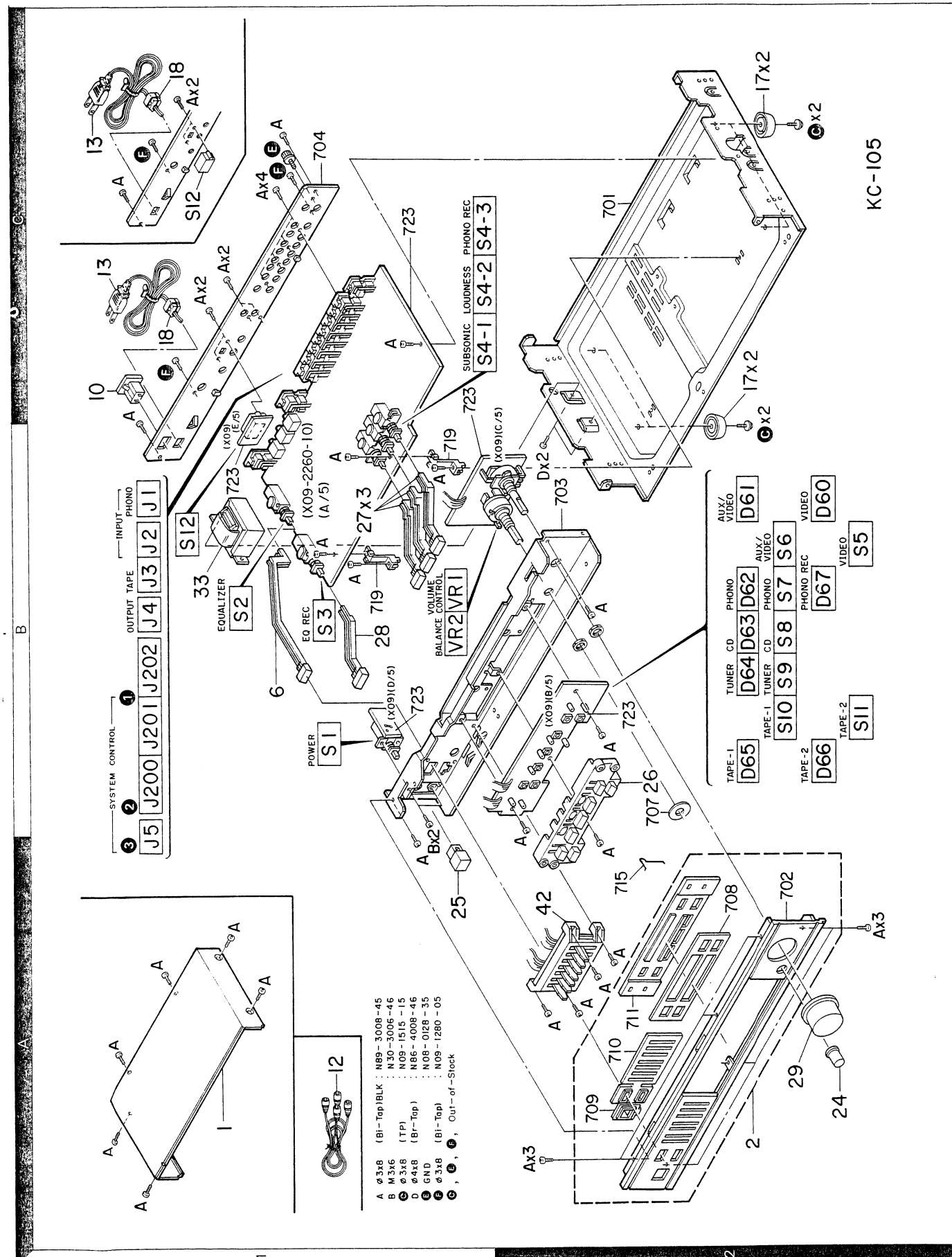
• Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

• Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

**KC-105**  
**KENWOOD**



EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕	向備考
KC-105						
1	1A		A01-1469-01	METALLIC CABINET		
2	2A	*	A20-4763-03	PANEL ASSY		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UE	
-			B46-0095-03	WARRANTY CARD	UE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-		*	B50-6112-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-6113-00	INSTRUCTION MANUAL (FRENCH)	PMXA	
-		*	B50-6114-00	INSTRUCTION MANUAL (SPANISH)	MA	
-		*	B50-6115-00	INSTRUCTION MANUAL (ARABIC)	MA	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0269-04	CAUTION CARD	K	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UE	
6	1B	*	D21-1129-04	EXTENSION SHAFT(EQUALIZER)		
10	1C		E03-0036-05	AC OUTLET	UMUE	
10	1C		E03-0041-05	AC OUTLET	KP	
12	1A		E30-0505-05	AUDIO CORD		
13	1C		E30-0459-05	AC POWER CORD	A	
13	1C		E30-0812-05	AC POWER CORD	UMUE	
13	1C	*	E30-0996-05	AC POWER CORD	KP	
13	1C		E30-1341-05	AC POWER CORD	X	
-		*	H01-7112-04	ITEM CARTON CASE		
-		*	H10-1896-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-1897-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0223-04	PROTECTION BAG (750X350)		
-			H25-0232-04	PROTECTION BAG (235X350)		
17	2C		J02-0161-04	FOOT		
18	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
24	2A		K29-1736-04	KNØB (BALANCE)		
25	1A		K29-2001-04	KNØB ASSY (POWER)		
26	2B	*	K29-2369-03	KNØB ASSY		
27	1B	*	K29-2370-04	KNØB ASSY (SUB,LOUD,PHONO REC)		
28	1B	*	K29-2371-04	KNØB ASSY (EQ REC)		
29	2A	*	K29-2374-04	KNØB (VOLUME CONTROL)		
33	1B	*	L01-7031-05	POWER TRANSFORMER	KP	
33	1B	*	L01-7032-05	POWER TRANSFORMER	X	
33	1B	*	L01-7035-05	POWER TRANSFORMER	UMUE	
33	1B	*	L01-7037-05	POWER TRANSFORMER	A	
C	2B,2C		N09-1515-05	TAPPING SCREW (Ø3X8)		
E	1C		N08-0128-35	BINDING POST (GND)		
F	1C		N09-1280-05	SCREW (Ø3X8)		
42	1A	*	R29-5006-05	POTENTIOMETER (GRAPHIC EQ.)		
S12	1C		S31-2083-05	SLIDE SWITCH (POWER TYPE)	A	
AUDIO UNIT (X09-2260-10)						
D60 -67	2B		B30-0431-05	LED(LN21CPH)		

E: Scandinavia & Europe H:Audio Club K: USA P: Canada W:Europe

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UE : AAFES(Europe) X: Australia M: Other Areas

⚠ indicates safety critical components.

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
C1 ,2			CE04KW1V100M	ELECTR0 10UF 35WV		
C3 ,4			CC45FSL1H101J	CERAMIC 100PF J		
C5 ,6			CE04KW1A470M	ELECTR0 47UF 10WV		
C7 ,8			CK45FB1H561K	CERAMIC 560PF K		
C9 ,10			CF92FV1H123J	MF 0.012UF J		
C11 ,12			CF92FV1H332J	MF 3300PF J		
C13 -16			CE04KW1V100M	ELECTR0 10UF 35WV		
C21 ,22			CE04KW1H3R3M	ELECTR0 3.3UF 50WV		
C23 -26			CK45FB1H561K	CERAMIC 560PF K		
C27 ,28			CE04KW1H3R3M	ELECTR0 3.3UF 50WV		
C29 ,30			CE04KW1H0R1M	ELECTR0 0.1UF 50WV		
C31 ,32			CE04KW1H2R2M	ELECTR0 2.2UF 50WV		
C33 ,34			CE04KW1H0R1M	ELECTR0 0.1UF 50WV		
C35 ,36			CE04KW1H47M	ELECTR0 0.47UF 50WV		
C37 ,38		*	CF92FV1H303J	MF 0.030UF J		
C39 ,40			CE04KW1H22M	ELECTR0 0.22UF 50WV		
C41 ,42			CF92FV1H123J	MF 0.012UF J		
C43 ,44			CF92FV1H823J	MF 0.082UF J		
C45 ,46			CF92FV1H512J	MF 5100PF J		
C47 ,48			CF92FV1H333J	MF 0.033UF J		
C49 ,50		*	CF92FV1H202J	MF 2000PF J		
C51 ,52		*	CF92FV1H133J	MF 0.013UF J		
C53 ,54			CK45FB1H821K	CERAMIC 820PF K		
C55 ,56			CF92FV1H472J	MF 4700PF J		
C57 -60			CE04KW1V100M	ELECTR0 10UF 35WV		
C63 ,64			CF92FV1H473J	MF 0.047UF J		
C65 ,66			CF92FV1H333J	MF 0.033UF J		
C71 ,72			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C73 ,74			CE04KW1A470M	ELECTR0 47UF 10WV		
C75			CE04KW1V100M	ELECTR0 10UF 35WV		
C76			CE04KW1V100M	ELECTR0 10UF 35WV		
C77 ,78			CE04KW1C470M	ELECTR0 47UF 16WV		
C82 ,83			CE04KW1E101M	ELECTR0 100UF 25WV		
C84 ,85			CE04KW1E102M	ELECTR0 1000UF 25WV		
C86 ,87			CE04KW1C470M	ELECTR0 47UF 16WV		
C88 ,89			CE04KW1V100M	ELECTR0 10UF 35WV		
C90			CE04KW0J222M	ELECTR0 2200UF 6.3WV		
C91 ,92			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C93			CE04KW1A101M	ELECTR0 100UF 10WV		
C97 ,98			CC45FSL1H101J	CERAMIC 100PF J		
C99			CE04KW0J471M	ELECTR0 470UF 6.3WV		
C101-106			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C107,108			CK45FF1H103Z	CERAMIC 0.010UF Z		
C109			CK45FF1H473Z	CERAMIC 0.047UF Z		
C110			CK45FF1H103Z	CERAMIC 0.010UF Z		
C111-122			CC45FSL1H101J	CERAMIC 100PF J		
J1	1B	*	E13-0235-05	PHONE JACK		
J2 ,3	1B		E13-0814-05	PHONE JACK (8P)TAPE,INPUT		
J4	1B		E13-0229-05	PHONE JACK (2P)OUTPUT		
J5	1A		E13-0126-05	PHONE JACK (1P)SYSTEM CONTROL		
J200	1B		E11-0152-05	MINIATURE PHONE JACK(3P)BLK		
J201,202	1B		E11-0164-05	MINIATURE PHONE JACK GRN		
X1			L78-0202-05	RESONATOR (400KHZ)		

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VR1	1B	*	R06-5150-05	POTENTIOMETER (VOLUME CONTROL)		
VR2	1B	*	R01-5054-05	POTENTIOMETER (BALANCE)		
S1	1B		S40-2182-15	PUSH SWITCH (POWER)		
S2	1B		S40-4067-05	PUSH SWITCH (EQUALIZER)		
S3	1B		S40-2193-05	PUSH SWITCH (EQ REC)		
S4	1C	*	S42-3103-05	MULTIPLE PUSH SWITCH(SUB,ROUND)		
S5 -11	2B		S40-1064-05	PUSH SWITCH		
△ S12	1C		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUE	
D1 -32			1SS133	DIODE		
D1 -32			1SS176	DIODE		
D33 -36			DSM1A1	DIODE		
D37 ,38		*	HZS16N(B2)	ZENER DIODE		
D37 ,38		*	RD16ES(B2)	ZENER DIODE		
D39			1SS133	DIODE		
D39			1SS176	DIODE		
D40		*	HZS4.7N(B)	ZENER DIODE		
D40		*	RD4.7ES(B)	ZENER DIODE		
D41			1SS133	DIODE		
D41			1SS176	DIODE		
D42			DSM1A1	DIODE		
D43			1SS133	DIODE		
D43			1SS176	DIODE		
D44			DSM1A1	DIODE		
D45 -56			1SS133	DIODE		
D45 -56			1SS176	DIODE		
IC1 ,2			NJM2068D-D	IC(OP AMP X2)		
IC3			LC7820	IC(ELECTR0 CONTROL SWITCH)		
IC4		*	LC4966	IC(CMOS LOGIC BILATERAL SW)		
IC5			UPD7537C-025	IC(MICROPROCESSOR)		
IC6 ,7		*	M5229P	IC(7CH GRAPHIC EQUALIZER)		
IC8			UPC78L05	IC(VOLTAGE REGULATOR/ +5V)		
Q1			2SC3244(D,E)	TRANSISTOR		
Q2			2SA1284(D,E)	TRANSISTOR		
Q3 ,4		*	2SA733(A)(Q,P)	TRANSISTOR		
Q5 ,6		*	2SC2878(B)	TRANSISTOR		
Q10			2SC945(A)(Q,P)	TRANSISTOR		
Q11			2SA733(A)(Q,P)	TRANSISTOR		
Q12			2SC945(A)(Q,P)	TRANSISTOR		
Q13			2SA733(A)(Q,P)	TRANSISTOR		

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UE :AAFES(Europe) X: Australia M: Other Areas

△ indicates safety critical components.



## SPECIFICATIONS

### AUDIO SECTION [OVERALL CHARACTERISTICS] TUNER, TAPE to SPKR (Partially PHONO to SPKR)

#### Continuous Average Power Output

Voltage . . . . . 1V + 1V

#### Total Harmonic Distortion (20 Hz to 20,000 Hz)

AUX → Speaker (8 ohms)/Power-in → SPKR (8 ohms)

At rated output . . . . . 0.003%

#### Frequency Response

Overall [AUX → OUT] . . . . . 5 Hz to 200,000 Hz  
+0 dB, -3 dB

#### Phono "RIAA" Response

[Phono → REC out] . . . . . 20 Hz to 20,000 Hz  
±0.3 dB

#### Signal-to-Noise Ratio (IHF-A) at rated output

Phono MM (2.5 mV) . . . . . 80 dB

Phono MM (5.0 mV) . . . . . 86 dB

Tuner, AUX, Tape play . . . . . 100 dB

#### Tone Control

60 Hz, 150 Hz, 400 Hz, 1,000 Hz, 2,400 Hz,

6,000 Hz, 15,000 Hz . . . . . ±10 dB

#### Filter

Subsonic . . . . . 60 Hz, 6 dB/oct

#### Loudness Control

At -30 dB volume level . . . . . 100 Hz, +8 dB

#### Input Sensitivity/Impedance

Phono MM . . . . . 2.5 mV/ 47 k ohms

Tuner, AUX, Tape play,

CD, Video . . . . . 150 mV/ 33 k ohms

#### Phono Maximum Input Level

MM . . . . . 95 mV T.H.D. 0.03%  
at 1,000 Hz

#### Output Level/Impedance

Tape REC (Pin) . . . . . 150 mV/ 330 ohms

#### General

Power Supply Voltage, Frequency . . . 120 V, 60 Hz (U.S.A. &  
Canada models), 220 V,  
50 Hz (Europe model),  
240 V, 50 Hz (U.K. model)  
or 110 ~ 120 V/ 220 ~  
240 V, 50/ 60 Hz (Other  
countries).

Power Consumption . . . . . 6 W

Dimensions . . . . . W 420 mm  
H 74 mm  
D 272 mm

#### Weight

Net . . . . . 3.1 kg

Gross . . . . . 3.7 kg

#### Note :

We follow a policy of continuous advancements in developments.  
For this reason specifications may be changed without notice.

#### Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

## TRIO-KENWOOD CORPORATION

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